INDUSTRIAL EXPERTISE
IN AUTOMATION, DIGITALIZATION, 
AND ELECTRONICS
"Our Company was founded in 2017 and located in the heart of Budapest. Possessing many years of international experiences, we established and built up the Hungarian Subsidiary of the Germany based HEITEC AG Company.

The Hungarian Office provides engineering consultancy and R&D services on many different fields of the Industry. We are targeting close collaboration and long-term strategic partnership with our customers. We are firmly committed to serve our customers on the most flexible and effective way. The success is guaranteed by our qualified staff and our reliable services.

We assure you, our engineers' readiness and efforts are boosting your business. Make your business plans come true, extend your capacities of development by grabbing the chance to involve our innovative Hungarian engineers.

I hope, you are interested in our capabilities and we can welcome you soon among of our customers.

Yours sincerely”

Dr. Várady Péter
CEO of HEITEC Hungary
HEITEC AG Locations

**Germany**
- Auerbach
- Augsburg
- Berlin
- Bönnigheim
- Chemnitz
- Crailsheim
- Eckental
- Erlangen
- Fürth
- Hamburg
- Heidenheim
- Heilbronn
- Kiel
- Kuchen
- Munich
- Neutraubling
- Regensburg
- Waiblingen

**Austria**
- Ardagger-Stift

**Hungary**
- Budapest

**Romania**
- Bucharest

**Slovak Republic**
- Trenčianska Turná

**Turkey**
- Kartal-Istanbul
HEITEC HUNGARY KFT

› Established: September of 2017
› Location: 2 offices in Budapest
› Staff: 100+ engineers (BSc / MSc / PhD)
› Revenue: ca. 4,6 M € in 2020

Software Engineering
Hardware / Electrical Engineering
Mechanical Engineering
System Engineering
SOFTWARE DEVELOPMENTS

Technologies

- Visual Studio
- eclipse
- ORACLE JDeveloper
- LabVIEW
- AUTOSAR
- SIMA
- POLARION
- git
- IBM DOORS
- C++
- Qt
- A
- python
- VECTOR
- AGILE
- Jenkins
- JIRA

Development

- Embedded Real-time Systems
- Software Integration and Testing
- Test Automation
- User Interfaces
- WEB based Frontend and Backend solutions
- Automation and Drives

- Industrial Automation
- Automotive Applications
- Machine Tooling
- Medical Devices
- Manufacturing
- Measurement Systems

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Embedded Real-time Systems

› Firmware and Applications
› Software integration and testing
› Test Automation Frameworks
› ARM Architectures
› C / C++ / Qt / Python
› Embedded Linux / Real-time OS

Automotive Systems

› Applications
› Software integration and testing
› AUTOSAR
› CAN / FlexRay
› CANoe / CANape / ECU-TEST
› C / C++ / Qt / Python
WEB-BASED SOFTWARE

Frontend
- Angular
- HTML5 Boilerplate
- Bootstrap 4
- TypeScript
- NPM
- GitHub
- SASS

Backend
- WPF (.NET Framework)
- .NET Core
- Node.js
- JAVA EE (Spring)
- GoLang
- Apache
- NGINX
- MongoDB
- MS SQL

Microservices
- Docker

IDE Platforms
- Visual Studio 2019
- VS Code
- Eclipse
- IntelliJ IDEA
- Webstorm

DevOps
- Jenkins
AUTOMATION & DRIVES

Control
› SIMATIC S7
› BECKHOFF TwinCAT

Drives
› SINAMICS S120
› SEW

CNC Machine Tools
› SINUMERIK 840D
› HEIDENHAIN TNC 640

HMI and SCADA
› SIMATIC HMI: WinCC

Communication
› PROFINET
› MTConnect
› OPC UA
› MQTT

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SYSTEM TESTING

COMPETENCIES

- Drive Testing
- Machine Tool Testing
- Automated UI Testing - HMI
- Test Planning
- Test Case Definition
- Test Automation Framework - WPF
- Certified test engineers - ISTQB
- Test Management

METHODS

- Functional and non-functional system tests
- Automated 24/7 tests
- Regression tests
- Interface tests / network / data consistency tests
- Installation / stress / crash / performance testing
Agile Project Management

› Daily Scrum based effective team work
› Experienced Scrum Masters
› JIRA enhanced Issue tracking
› 6-8 members in each team
› 2 weeks sprint periods

Joint work with the key stakeholders at customers
Competences

› Power Electronics
› Inverter technology
› Electrical drives
› Signal electronics
› NI test system - LabView
› Prototype Design Verification
› Mathematical Design Verification
› Return Part Analysis
› Root Cause Analysis
› Electric and mechanical inspections
› Electrical and PCB design
› Electronic Circuit simulation
HARDWARE DESIGN TEAM

Team
› Group of 6 hardware engineers seniors with 10+ years experiences

Competences
› System architecture design
› Embedded systems design
› IoT and LoRa radio systems
› Microcontroller and FPGA based design
› XILINX and ALTERA FPGA design
› DC-DC power converters
› I/O, PCIe, Gigabit Ethernet, DDR3 and DDR4
› High speed PCB design, EMI compatibility
› Custom design - Client conformity
› Industrial, Medical, eMobility, Military applications
HARDWARE TEST TEAM

Team

› Group of 12 hardware engineers
  seniors with 15+ years experiences

Competences

› Isolation test
› High Voltage tests upto 1000 Vdc
› Thermal tests from -40°C to 180 °C
› Tolerance verification (test and calculation)
› Control and driver function verification
› Communication line verification
› Analog & Digital signal analysis
› Frequency response (test and calculation)
› Absolute maximum ratings verification (calculation)
› Withstand of Transient stress (load dump, ISO pulse, ESD)
Power Supplies: controllable (4 ch) and 4 quadrant amp.
HV Power Supply: up to 1000V
Digital Multimeters: desktop and handheld (Keithley and Fluke)
Oscilloscopes: 500MHz - 4ch and 8ch / 300MHz - Bode op.
Accessories: Diff., HV, Rogowski probes
Infrared camera: Keysight U8555A
HV Isolation tester: GW-Instek GPT-9803
LCR meter (+ESR): Sanwa LCR700
Function Generator: Keysight (arbitrary option)
Electronic Loads: programmable, low voltage
NI devices: frames & modules CAN - NI 9862
Thermocouples: Thermocoupler Datalogger
Climatic Chambers: 6 pcs (-40°C ...+180°C)
Microscope: Digital Tagarno FHD + Xplus FHD Controller
PCB assembly: Soldering stations / Hot plate
Team

› Group of 6 mechanical design engineer seniors with 15+ years experiences

Competences

› Technical specifications and documentations
› Concept generation
› 3D models and 2D drawings
› Design of moulded and sheet metal parts
› Die casting design - sand or injection die casting
› Design review, Assembly and feasibility check
› Tolerance calculations

Software tools

› Siemens NX10, Catia V5, Creo
› Data management: Teamcenter, PD Tec, Windchill
› Task management/work packages: Polarion

*pictures are for illustration purposes only
Designed components

› High Voltage connectors
› AC and DC Busbars
› DC Link
› Sheet metal parts
› JIG design for cooling performance
› Parts of inverter housing
› Brackets

Documentation

› Pull out force calculations
› Tolerance calculation for Creepage and Clearance
› Measurement reports evaluation
› Detail design specification
› Rework instructions
› Assembly instructions
› Test specifications

*pictures are for illustration purposes only
Digitalization of production and business processes

- Software-based support for engineering processes
- Virtual models of machines, systems, and robots
- Broad technological and industrial expertise
- Use of proven building blocks and components
- Technical realization and implementation in one hand

Customer benefits

- Shorter project duration and commissioning time
- Improved software quality for problem-free production
- Operation optimization based on collected data
- Greater flexibility and increased plant availability
- Faster and easier employee training on the virtual model
- Significant cost savings and higher productivity
DIGITAL TWIN & VIRTUAL COMMISSIONING
SYSTEM DESIGN & VERIFICATION

Customer’s Requirements
- Analyzes

Standard Assessment

Technical Support of
- Customers
- Management
- Sales

System Specification

Architecture Design

Design Specification
- Electrical
- Hardware
- Mechanical
- Software

Electrical

Hardware

Mechanical

Software

Design Review

Design Verification Plans

Prototype Tests

Pre-compliance Tests

Certification Tests

Acceptance Tests

Field Tests

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POWER ELECTRONICS SYSTEMS

Engineering Services
› Requirements Analyzes
› Design Specifications
› Design Review
› Installation Inspection
› Troubleshooting at Site
› Root Cause Analyzes
› Technical Problem Solving
› Training of Technical Staff

Applications
› Static Starters
› Excitation Systems
› Solar Inverters
› Wind PCS
› Electrical Drives

Industries
› Power Plants
› Solar Parks
› Wind Farms
› Industrial Facilities

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OUR ADVANTAGES

Location in the Center of Budapest

› Budapest is the strongest R&D area in the CEE region
› Strong engineering society
› Strong education background
› Innovation friendly economic environment for investors

Our strength

› Highly skilled engineers with many years of work experiences
› Synergy of multidisciplinary engineering competences
› Strong project management skills
› Experienced engineering leadership
› Flexible infrastructure – expandable office space and laboratory facilities
› Close distance and relation to the main Technical University campus of Budapest
› Good network of local engineering society in Budapest
› Good personal relation to all major local engineering universities
Long-term cooperation and partnership

› Customer-specific R&D infrastructure at HEITEC in Budapest
  › secured IT infrastructure
  › expandable laboratory facilities
  › test network

› Customer-conform R&D process at HEITEC

› Delegated responsibilities to manage the work packages

› Innovative solutions and accurate deliverables

› Joint work with customers

BRÜCKENKOPF - HEITEC AG CAN PROVIDE TECHNICAL KEY ACCOUNTS NEAR TO THE CUSTOMER’S LOCATION